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ABSTRACT

Control of traffic around school areas is one of the most important factors to be considered when selecting and designing a school site plan. To provide positive safeguards, it is necessary to establish and encourage school administrators to adopt a comprehensive set of guidelines. This booklet is directed to all personnel involved either in designing and operating new school facilities or in renovating and reconstructing existing ones. Topics considered include site selection, on-site safety, off-site safety, and safety on existing school sites. Figures present the minimum turning paths for passenger cars, single trucks, and school buses that should be used when designing curves and turnarounds on internal roadways. Another set of figures depict some "before" and "after" conditions, illustrating how existing school sites may be effectively and economically modified to adapt to changes in school bus zones, parent pick-up zones, parking facilities, pedestrian and bicycle routes, and playground areas. The appendix contains a list of Michigan officials and agencies that might serve as resources. (Author/MLF)

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# TRAFFIC SAFETY PLANNING ON SCHOOL SITES

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# TRAFFIC SAFETY PLANNING

# OF

# SCHOOL SITES

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Michigan Section
District III
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January 12, 1978

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# INTRODUCTION

The safe and efficient movement of vehicular and pedestrian traffic on school property should be a primary objective of school administrators, school architects and transportation engineers. Attainment of this objective has been made increasingly difficult in recent years due to the tremendous increase in student bussing resulting from shifts in population and the spread of urban and suburban development. As these traffic conditions have become more complex, it has become necessary to adopt temporary or stop-gap measures to reduce accident hazards and to prevent conflict between pedestrian and vehicular traffic on school sites and streets immediately adjacent to school sites. In numerous cases, these attempts to provide a safe environment have not proven adequate. To provide positive safeguards it is necessary to establish a comprehensive set of guidelines and to encourage school administrators to adopt these guidelines in the development of new school sites or in the modification of existing sites. This publication provides guidelines necessary to help in providing a safe and efficient traffic movement system on school grounds.

Control of traffic around school areas is one of the most important factors to be considered when selecting and designing a school site plan. Tommorrow's traffic problems can be eliminated at the design stage thus averting a possible tragedy and eliminating unnecessary expenditures for correcting problems which surface after the school is in operation. The suggestions in this report should not be considered absolute; they should be revised to fit local conditions. Consideration should be given to all forms of traffic entering and leaving the school area: busses, parents, faculty, service and student vehicles, bicycles, pedestrians, and emergency vehicles.

## INTRODUCTION (CONT'D)

A traffic expert should be consulted before plans are finalized.

This booklet is directed to all personnel involved either in designing and operating new school facilities or in renovating and reconstructing existing facilities. These guidelines can be applied to all school sites as part of a regular review to ensure that existing facilities are as safe as possible. Persons involved in school site planning and design should consult with local governmental and safety agencies and personnel for assistance. State and local officials should also be consulted regarding standards, codes, ordinances, and permits. A list of some of these agencies is included in Appendix B for your convenience.

The principles of good traffic control detailed on the following pages will, if adhered to, provide a safe environment on school sites. They should be given the highest possible priority when evaluating new sites, expanding current sites or reviewing existing school operations. Publication of these principles has been through the efforts of the Technical Committee of the Michigan Section of the Institute of Transportation Engineers in cooperation with the Automobile Club of Michigan, and a statewide Traffic Engineering Coordinating Committee established by the Office of Highway Safety Planning within the Michigan Department of State Police.

Additional copies of this publication can be obtained through the Office of Highway Safety Planning, 7150 Harris Drive, General Office Building, Lansing, Michigan, 48913. Phone: (517) 373-2930.

# CHAPTER I

## SITE SELECTION

Prior to land acquisition and specific planning for school sites, the school board or superintendent must determine certain basic parameters:

1. Current and projected school population to be served in entire district.
2. Grades to be served (primary, elementary, middle, junior high, high school).
3. The size of the school (i.e. number of classrooms and/or students).
4. Scope of extracurricular activities -- playground area, athletic fields, auditorium facilities, community rooms, etc.
5. Current transportation policies in district.
6. Size and shape of the school service area.
7. On-site roadway system including parking and loading zone.

When these elements have been identified, the actual land area needed for the school site can be calculated by the school architect and planner. Sites available within a school district are usually limited, and too often the final selection is based primarily on initial cost with secondary consideration given to some of the parameters cited above. Such a selection, based on cost alone is short-sighted and can prove costly in future years if the site does not have sufficient area to accommodate the necessary building and related facilities as well as essential transportation facilities.

During these initial stages, the local governmental agencies and adjacent road authorities should be contacted to determine the present and future zoning and transportation systems.

The actual site location will depend upon consideration of the following factors:

1. Amount of land needed
2. Zoning or land use
3. Evaluation of land presently owned by the school district
4. Funds available for land acquisition
5. Access to street system and classification of adjacent street (residential, major arterial, state highway, county primary, etc.)
6. Relationship to other facilities
7. Landscaping requirements
8. Availability of utilities
9. Compatibility with adjacent land owners
10. Future expansion

Donated or land presently owned by the school district is not always the "best buy" for a new school site. Increased travel times, accessiblility, and land use problems often will more than offset the initial dollar savings. A new school is a long-range investment and should be analyzed from that point of view.

If the site is not readily accessible from an adequate street network, traffic congestion and hazards will develop. Further, if the site is not adequate in size, it cannot efficiently accommodate all facilities necessary for a safe school operation. In addition to the buildings, these items include:

1. Separate loading zones for
   a) students transported by bus
   b) students transported by parents

2. Separate parking facilities for

   a) faculty and staff
   b) visitors
   c) students

3. Pedestrian and bicycle routes

4. Access for
   a) emergency vehicles
   b) service vehicles

5. Playground and athletic field

6. All necessary roadways

7. Bicycle racks

8. Areas for handicapped students

Primary or Elementary Schools

Sites for schools which serve younger children should be located as close as possible to the subdivisions in which the students reside in effort to reduce major street crossings. This will minimize walking distances and also reduce traffic congestion created by parents driving children to and from school busses. Sidewalks or easements should be provided so that students do not have to walk in streets or shoulders to reach the school.

Access streets should be wide enough for safe traffic flow. If streets cannot accommodate two-way traffic flow, curb parking should be prohibited during school hours to increase street space, or a one-way street system should be established. All curb parking must be prohibited

in advance of school pedestrian crossings, at driveway areas, and at building entrances. Such parking restrictions protect school pedestrians by maximizing visibility and, at the same time, make vehicle access safer.

Junior and Senior High Schools

Sites for junior and senior high schools are usually much larger than those for lower grade units. Adequate sites are not usually available in or contiguous to residential areas, so different criteria must be applied in the selection process. The basic size of the physical plant and related facilities must be established. This will be determined by the service area of the school, the student population within that area, and the transportation system required to serve the students.

As with elementary school sites, a high school site should also be readily accessible from a street system capable of handling school generated traffic (i.e. busses, service vehicles, delivery trucks, plus automobile traffic created by faculty, staff, parents and students).

On-site space must be provided for the buildings, the recreational and athletic facilities, faculty and staff parking, visitor parking, student parking, bus loading zones, bus storage area, bicycle racks, interior roadways, etc.

Student parking needs are quite flexible and vary considerably among school areas. It is best to evaluate the potential number of student vehicles and provide adequate on-site space for them. This eliminates

the need for students to park on residential streets which can cause unneeded congestion and a poor relationship with neighbors.

When all of these elements are considered, the final selection of school site may have to be made on the basis of compromise. Of the sites considered, one may have adequate area, but limited access; another may be accessible, but does not provide sufficient area for all of the desired facilities; still another may have many shortcomings, but be priced so attractively that it is given a preferential rating. In the latter case, it should be remembered that the problems that accrue at such a site often outweigh the monetary price advantage.

## CHAPTER II

## ON-SITE SAFETY

Good school site planning should stress the maximum feasible separation of basic transportation elements: 1) busses 2) cars and motorcycles, and 3) pedestrians and bicyclists. In addition, there are many more requirements that must be provided for on a school site. The following items list the important safety considerations with guidelines for each:

Regardless of all other parameters, two safety principles will apply on all school sites:

1. Adequate physical space must be provided for all modes of transportation to the degree that each is found on the site.
2. The physical routes provided for the basic components of the traffic pattern should be separated as much as possible from each other.

Adherence to these two basic principles will increase the safety of all persons utilizing the school site.

### School Bus Zones

IT IS ABSOLUTELY ESSENTIAL THAT BUS ZONES BE SEPARATED FROM ALL OTHER ACTIVITIES, SUCH AS, PARENT PICK UP ZONES AND NON-BUSSED STUDENT ENTRANCES ON NEW SITES AND IF POSSIBLE ON EXISTING SITES.

An estimate should be made of the number of busses that will be expected to be within the bus loading and unloading zone at any given period of time. The estimate should include the total number of busses used at the school, the number of drop off and pick up cycles run by each bus during each pick up or drop off period, an estimate of the length of time busses will be parked in the zone during its longest period (loading and unloading), and the length of the busses to be used at this

location. These facts will determine the dimensions for the loading zone, unloading zone, driveway length, etc.

Where the bus loading and unloading driveway re-enters the street system, consideration can be given to providing two outbound lanes - one for right turning busses and one for left turning busses, if two are necessary. Further consideration should be given to the length of storage from the street exit back to the point where busses are lined up against the curb loading or unloading.

The bus loading and unloading zones should be designed so that there is a one-way movement with the passenger door on the building side. It is highly recommended that this be a counterclockwise movement, (this would only be clockwise if the school bus driveway encircles the school building which is not recommended). Bus zones should be designed so that busses never have to back up. Figures I, II, III and IV are sketches of recommended school bus loading patterns. The exact dimensions of these zones may vary with the number of busses delivering or picking up students at any time. Standard dismissal and arrival times will have a direct bearing on the length of the bus zone. If expansion of the school bussing program seems likely, the zone should be designed with expansion in mind.

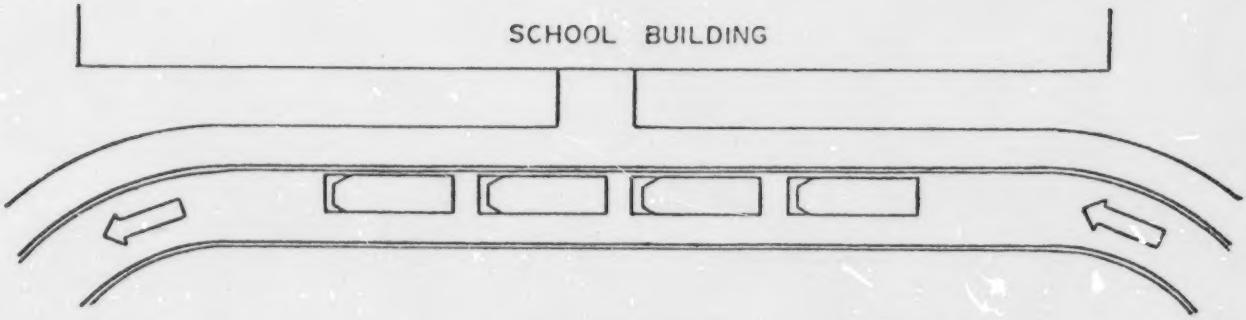


FIGURE I

OFF-STREET SCHOOL BUS LOADING & UNLOADING ZONE

Figure I is a drawing of the most common and preferred practice of loading and unloading students, "bumper to bumper." It can be used where space, especially driveway width, is of prime concern. The inherent danger in this is that only the front and rear busses can move in the event of any emergency. It may also be difficult to continue loading or unloading operations if one bus breaks down (flat tire, will not start, etc.). However, this system provides maximum safety for students loading and unloading busses.

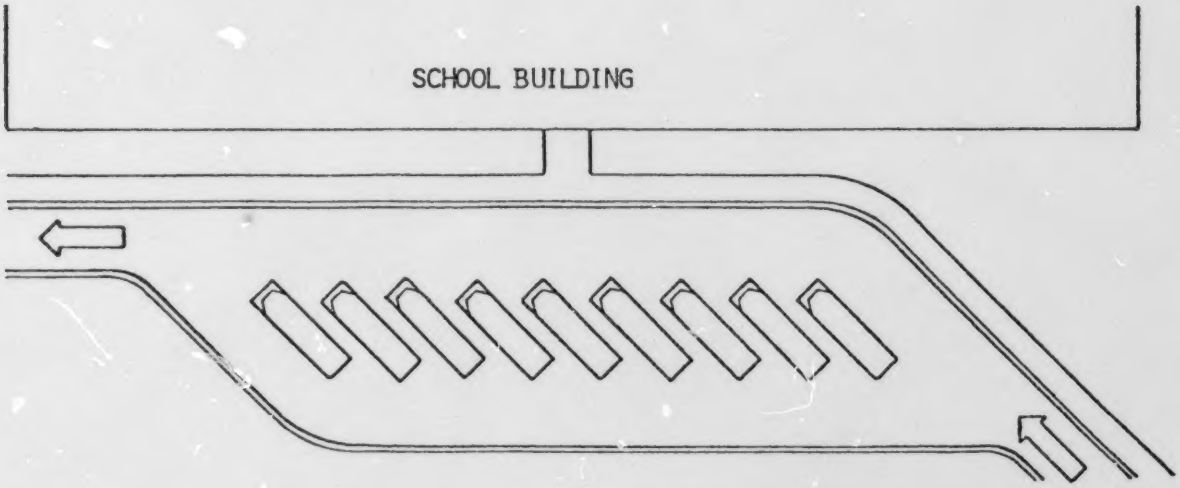


FIGURE II

OFF-STREET SCHOOL BUS LOADING ZONE

Figure II is a sketch of a diagonal pattern that should be used only for loading students. This pattern may be used where the length of driveway is limited, but the width is not. This pattern provides for the most efficient utilization of busses per frontage foot of school building. The pattern shown in Figure II has a potential for students becoming "lost" between or around busses. Supervision of students is of utmost importance. It is necessary that all busses depart at the same time so that no students are walking in the zone while busses are moving. Using this loading pattern busses can unload parallel, next to the curb since they do not all arrive at the same time.

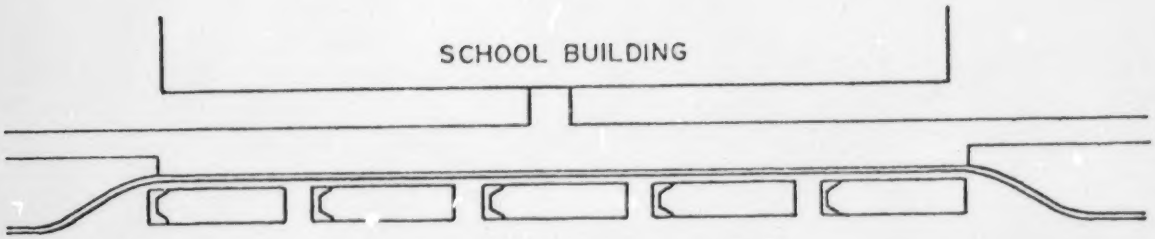


FIGURE III

ON-STREET SCHOOL BUS LOADING & UNLOADING ZONE

Since on-site space is often limited, Figure III shows how an on-street bus zone may be utilized. This should be used only when necessary to modify an existing site. It should never be designed into a new site. The existing street can be widened immediately adjacent to the school site for loading and unloading students. It is very important that proper steps be taken to keep motorists out of this type of zone. Proper paint markings and signs assist greatly, however, this will be a continual problem. These zones should be located on low-volume, low-speed streets only.

Regardless of the bus loading or unloading system, busses must be parked in such a manner that students never have to go between busses and so that the rear emergency door can open.

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Parent Pick Up and Drop Off Zone

As in the bus zone, traffic movement should be in a one-way counter-clockwise direction. Cars should be parallel parked so there is no need for them to back up. This counterclockwise motion virtually guarantees that students will leave the vehicle and step immediately upon the sidewalk, and vice-versa. The student loading zones should be completely separated from the bus zone. There should never be a need for parents' cars to mingle with busses.

An estimate of the probable number of cars that may be in the pick zone should be made. Traffic in this area will be heaviest during school dismissal times and an overflow may occur during inclement weather.

Faculty, Student, and Visitor Parking

If space permits, separate parking facilities should be designed for faculty, student, and visitor parking. Visitor parking, however, may be combined with faculty parking but never with bus zones or student pick up area. A visitor parking area should be located conveniently to a nearby street access and the school office inside the building. This is the only parking lot that needs to be near a building. Faculty and student parking can be located further from the building and should not be combined with each other, space permitting. The following guidelines can be used when estimating the number of parking spaces necessary. There should be one parking bay for each staff member and an additional ten percent of that for visitor parking. The school board policy on students driving should be considered during the design of student parking lots. These parking lots should be

designed and organized to be flexible enough to accommodate special events, such as graduation, plays, shows, and sporting events. Therefore, lights, walkways and driveways should be designed to accommodate both normal daily traffic and occasional high volumes of traffic associated with special events.

Pedestrian and Bicycle Routes

Sidewalks should be provided for all students walking or riding bicycles. These routes should be designed to cross a minimum number of internal driveways and never cross the school bus loading zone. Bicycle racks should be made available near the school building in a relatively safe location to discourage thefts and yet be accessible to sidewalks. All of these routes should be separated from student pick up and bus loading zones.

Playground Area

Playground facilities should be located so that students walking between school buildings and the playground need not cross streets, roadways, or driveways. Where students may be tempted to wander from the playground area, fences should be used. Fences also help prevent baseballs, etc. from rolling into streets and driveways.

Fencing

Chain fence can be very helpful, and even necessary at times, to separate students in the playground from vehicles. It also tends to keep

students and balls inside and animals and vehicles outside, especially near elementary schools. Fencing can also be used to improve walking patterns and prevent jaywalking.

Service Roads

Delivery and maintenance vehicles should not be parked along primary roadways. (See Emergency Vehicle Access). Space for service and delivery turn-offs and adequate service driveways connecting to main drives is the appropriate way to accommodate service vehicles.

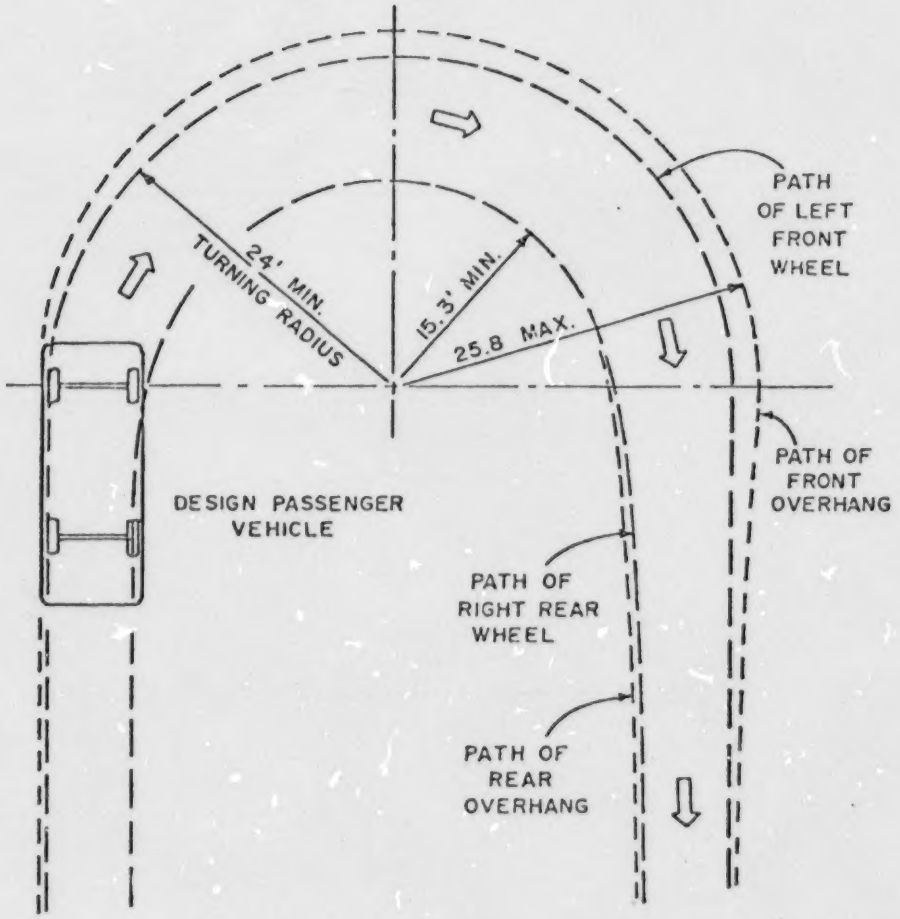
Driveway and Roadway Design Criteria

Many road agencies have their own driveway design standards which will be reviewed by them. However, in the absence of local standards, Michigan Department of State Highways and Transportation Standard Design Guides for Commercial Driveways (VII-650 and 680) may be used.

These standards state that at school drive intersections with streets, a 40' minimum radius from the street into a driveway and a minimum 30' radius be provided from the driveway onto the street for those driveways that accommodate busses. These dimensions recognize the higher exit speed from the street into the driveway. The driveway width at curb returns should be at least 30 feet. At these ingress and egress points, a relatively flat grade is desirable (not more than 2% for at least 100 feet from the street). This flat grade will provide a safer operation during adverse weather conditons. A maximum grade of 5% is recommended

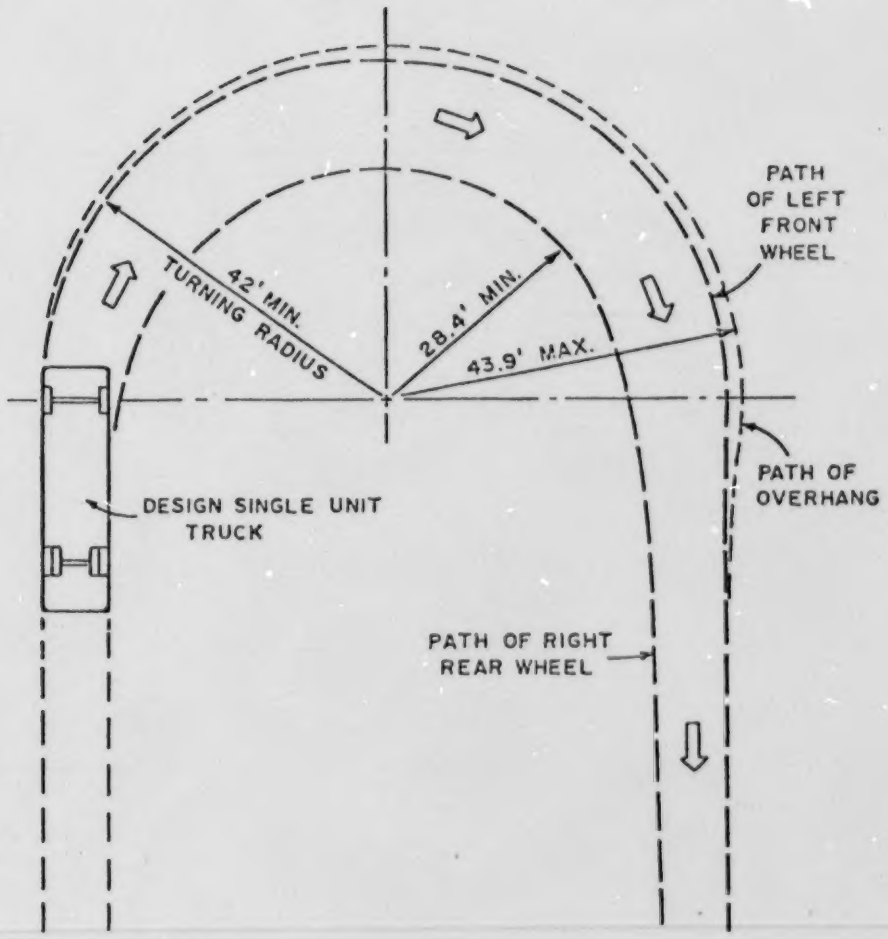
on internal school bus drives. Internal two-way roadways or two lane one-way roadways on school sites have a minimum width of 26' face-to-face of curb, or 24' edge-to-edge of an uncurbed facility. Consideration for wider pavement widths should be made when the roadway is curvilinear in design.

Figures IV, V and VI present the minimum turning paths for passenger cars, single trucks and school busses based on AASHTO Geometric Highway Design figures. These should be used when designing curves and turnarounds on internal roadways. Curbs are essential on all drives and roadways to a) provide good drainage flow, b) provide additional parking controls, and c) better define roadways. The location of drives, buildings, equipment and landscaping MUST permit adequate sight distances for drivers and pedestrians alike.



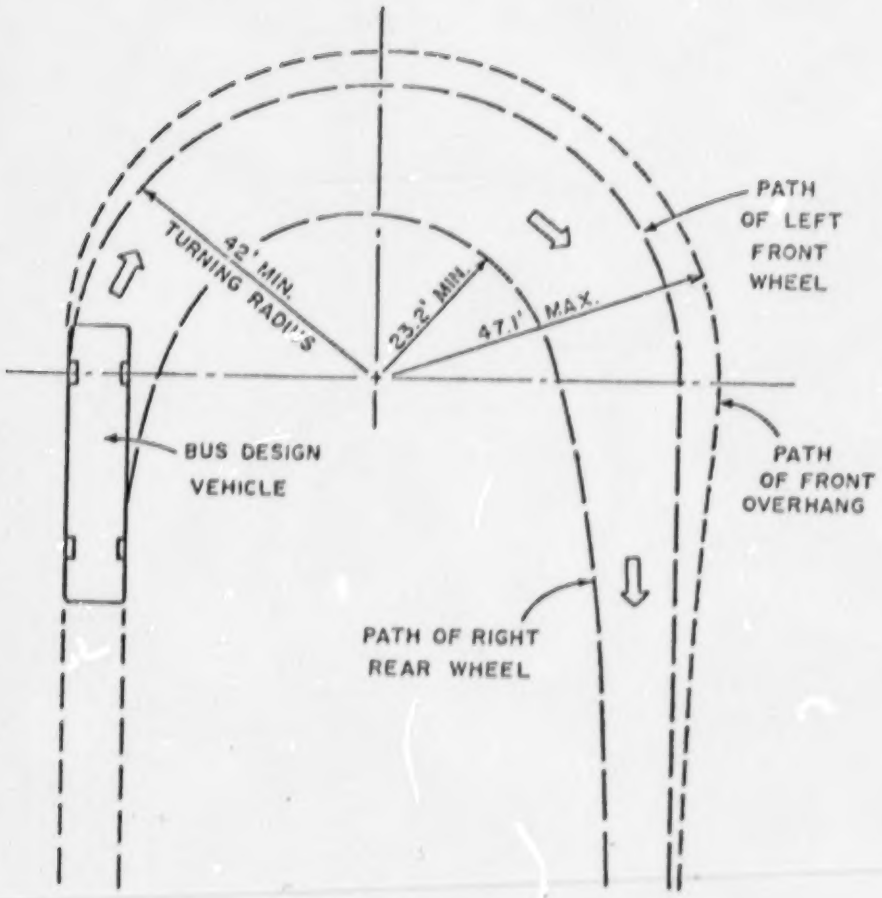

MINIMUM TURNING PATH FOR
PASSENGER VEHICLE
FIGURE IV

Geometric design requirements for trucks and busses are much more severe than they are for passenger vehicles. Trucks are wider, longer and have a greater minimum turning radius. These are the principal dimensions affecting horizontal roadway design.




MINIMUM TURNING PATH FOR
SINGLE UNIT TRUCK
FIGURE V

The single unit truck characteristics are suitable for all single unit trucks and small busses.




MINIMUM TURNING PATH FOR
BUS DESIGN VEHICLE
FIGURE VI

Roadways which will serve large busses or be curbed should be designed using criteria in this drawing (Figure VI) which assumes a driving speed of 10 m.p.h.

Emergency Vehicle Access

It is recommended that where driveways or parking lots do not lie contiguous to the school buildings, consideration should be given to the use of high strength sidewalks, 15 feet wide, with radii at any turns that would be sufficient to permit turning a large emergency vehicle. Access to these structural sidewalks can be made from the normal roadway and aisles on the school site via mountable curbs. Through the use of such features, emergency vehicles can gain access to all sides of a school building even though a street, driveway, or aisle does not run close to the building. It is recommended that all roadways, with the exception of loading and unloading zones, on school properties be signed "No Parking or Standing, Fire Lane". This traffic regulation should be reinforced by the adoption by the local agency of a private property traffic control order allowing the enforcement agency to enforce the restrictions. Delivery and school service vehicles should be made to rigidly obey these important parking restrictions because drivers have a tendency to "follow the leader" if they observe "official" vehicles getting away with ignoring their own rules. Assistance in developing traffic control orders can be obtained from the local or State Police.

Traffic Control Devices

All traffic control devices (signs, signals, and pavement markings) should conform to the Michigan Manual of Uniform Traffic Control Devices,

(MMUTCD). Chapter VII of the Manual deals specifically with the area around the school site, which is the responsibility of the road agency whose roadway abuts the site. Within the site, the responsibility for the traffic controls and their enforcement belongs with the school. As such, officials should make use of the MMUTCD when regulating traffic on the school site. The conformance and applicability of the traffic controls to a standard (as in MMUTCD) will aid traffic movement and safety. Guide signs directing motorists to buildings, parking lots, and offices should also be in conformance with the Manual.

A review of all traffic controls should be conducted to ensure their clarity to motorists and conformance to the Manual. Traffic signs should not be hidden by buildings, trees, shrubs, etc. Paint markings should be repainted before each school year and again later in the school year, if necessary.

It is important that all traffic controls conform with the Manual and "special" signs should not be installed for "special problems." The Manual addresses all traffic control problems and contains controls designed to meet each problem. Conformance to the MMUTCD will improve motorist and pedestrian movement and safety and will fascilitate enforcement of the regulations.

Federal, State, and Local Requirements

Safety and building specifications explain in detail facilities that must be provided for handicapped students. It is recommended that these standards be reviewed pertaining to each school site.

## CHAPTER III

## OFF-SITE SAFETY

An important requirement in site selection and plannning is a review of the land use surrounding the school area. For undeveloped areas, a review would determine whether future development in the area would complement a new school. Residential zones are a good example of a land use complementing a school area. In developed areas, a land use review would aid in the location of school driveways. An estimate of future traffic volumes on abutting streets, the need for traffic control devices (traffic signals, addition of street widening or turn lanes, etc.), and the need for pedestrian control should all be reviewed at the design stage to avoid future traffic problems. Local zoning should be checked to determine future land development and possible new traffic patterns. (See Figure VIIa).

Another off-site consideration is the location of school drives and pedestrian crossings, in respect to the road geometrics on all sides of the school. (See Figure VIIb). Site planners and architects should provide information regarding these items and all abutting land use for a minimum of 100 feet in all directions from the school site. This will help determine the location of pedestrian sidewalks, safety patrols, adult crossing guards, and maybe even building entrances.

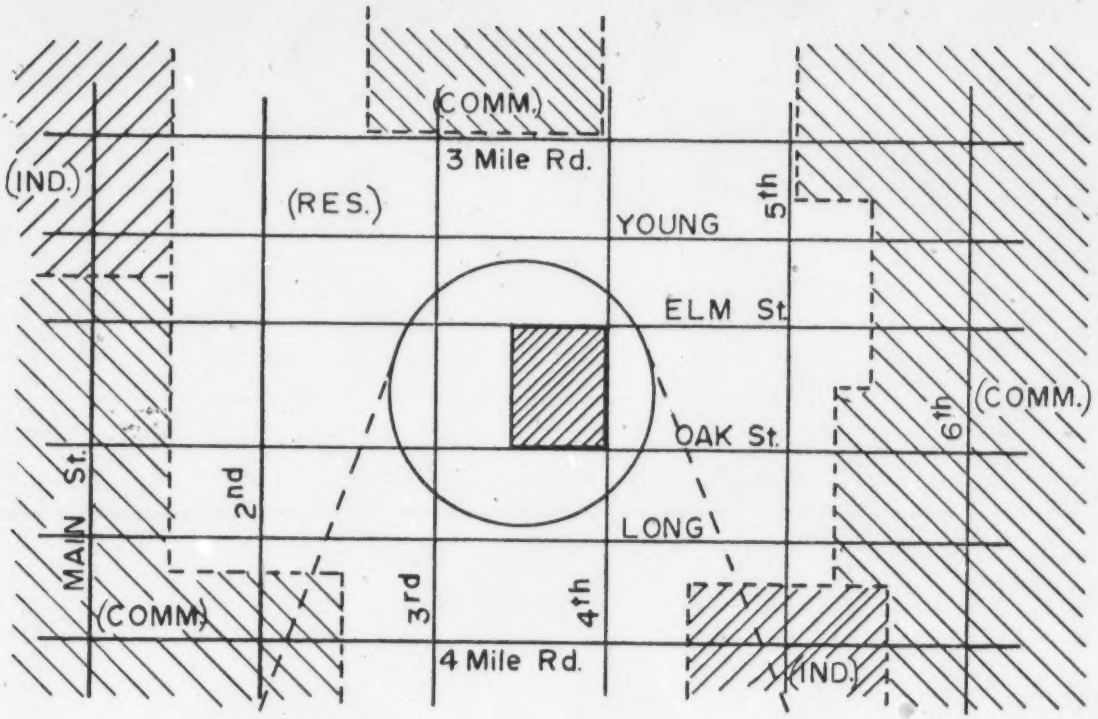



Figure VIIa

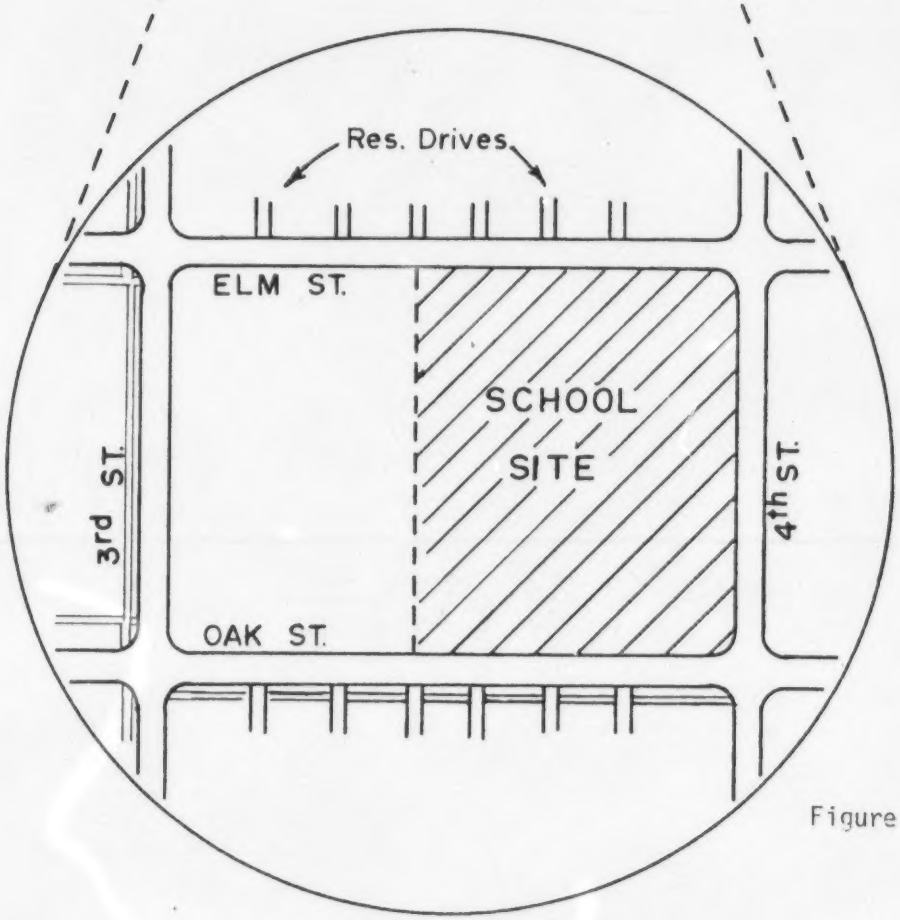



Figure VIIb

## CHAPTER IV

## SAFETY ON EXISTING SCHOOL SITES

On existing, fully developed school sites, traffic hazards may exist or can be created by changing population patterns, school board policies, curriculums and bussing policies. For example, an older school with grades one through eight with no bussing may, because of a change in policy, become a middle school requiring bussing. In this situation, there would be a change in the number of parents driving students to and from school, walking patterns, and, most critical of all, a bus zone would be needed.

This Chapter shows how existing school sites may be effectively and economically modified to adapt to these changes and to reduce created hazards.

Five of the basic principles are depicted in the following Figures of "before" and "after" conditions:

Figure VIII- School Bus Zone (page
Figure IX- Parent Pick Up Zone (page
Figure X- Parking Facilities (page
Figure XI- Pedestrian and Bicycle Routes (page
Figure XII- Playground Area (page

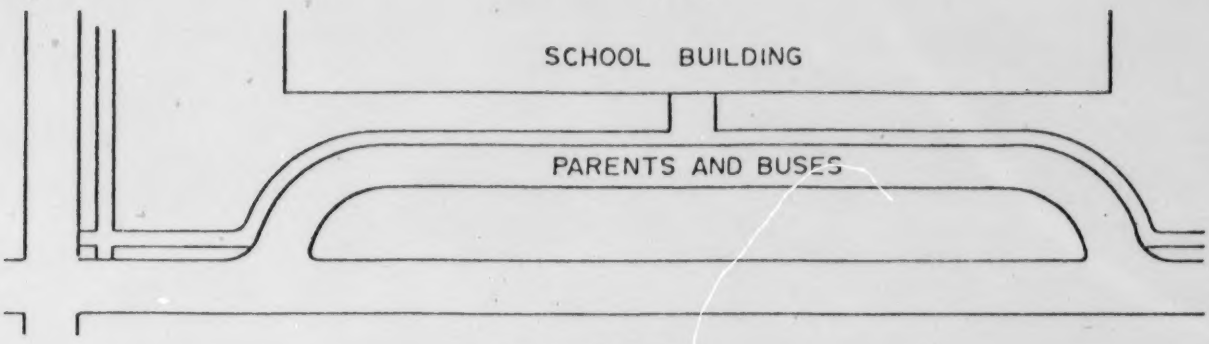



Figure VIIIa

Figure VIIIa is a sketch of an existing school with a horseshoe driveway in front of the building. This driveway is being used for both busses and parents' cars. The area becomes congested to the point that it is a hazard for both the students and the drivers of these vehicles. Busses are being blocked by parents' cars and students are running between vehicles to meet their parents.

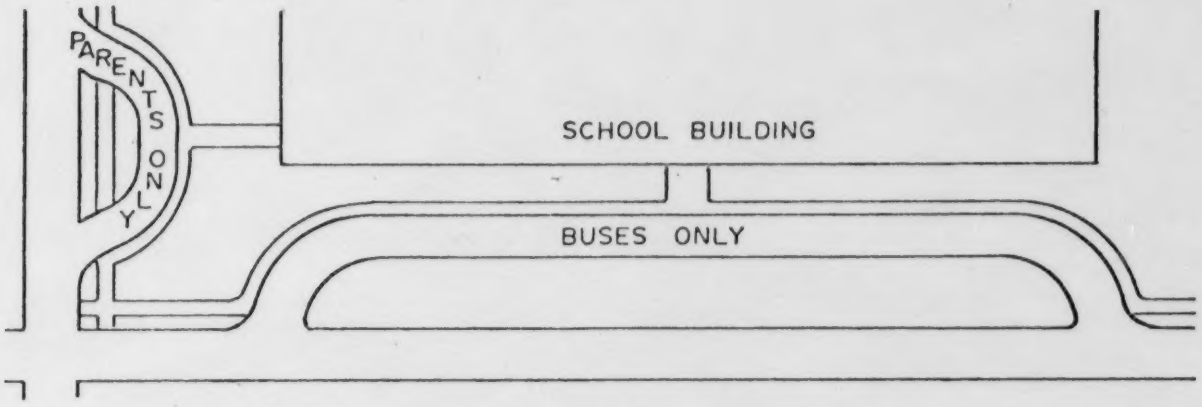



Figure VIIIb

Figure VIIIb depicts how, through the separation of the bus and student pick up zones, a better situation may be achieved. Here a separate loading area was constructed on the side of the school for student pick up. The busses are able to parallel park next to the sidewalk for safe and easy loading and unloading within their zone. The one-way counterclockwise pattern is used in both zones.

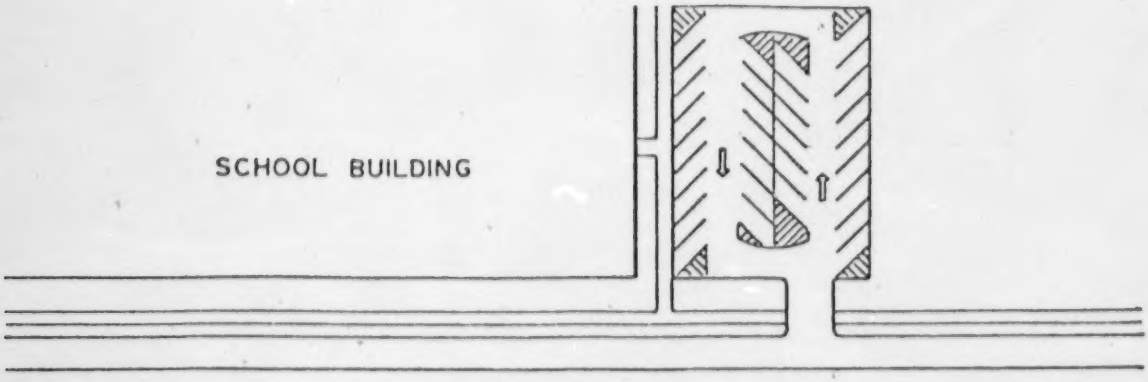



Figure IXa

Figure IXa shows an existing school with a single parking lot for staff, visitors and parent pick up. Utilizing this existing condition, parents must angle park while waiting for their children and then back out of their parking stall. Obviously this is a hazard to students walking through the parking lot to meet their parents, especially the shorter youngsters in the primary grades.

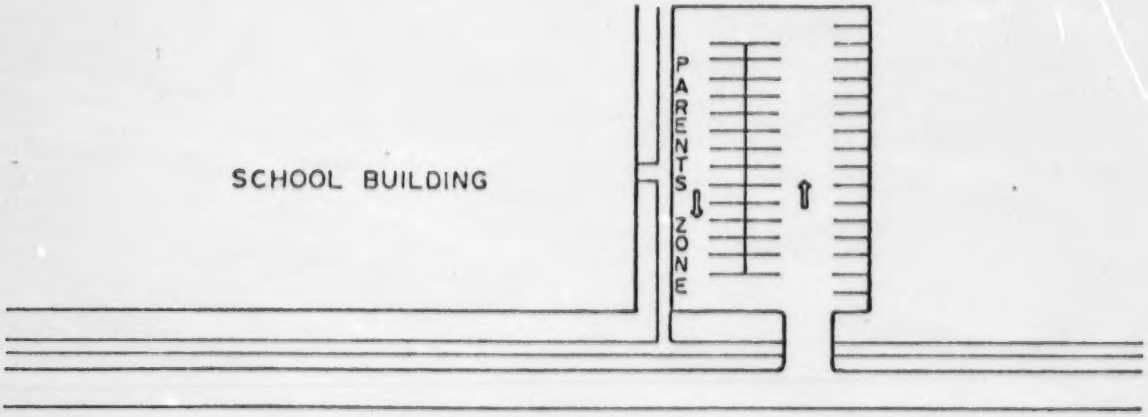



Figure IXb

In Figure IXb, this situation was improved, simply and inexpensively, by repainting and signing the parking lot in such a way as to allow parents to park their vehicles parallel to the school to load and unload. The one-way counterclockwise pattern is maintained.

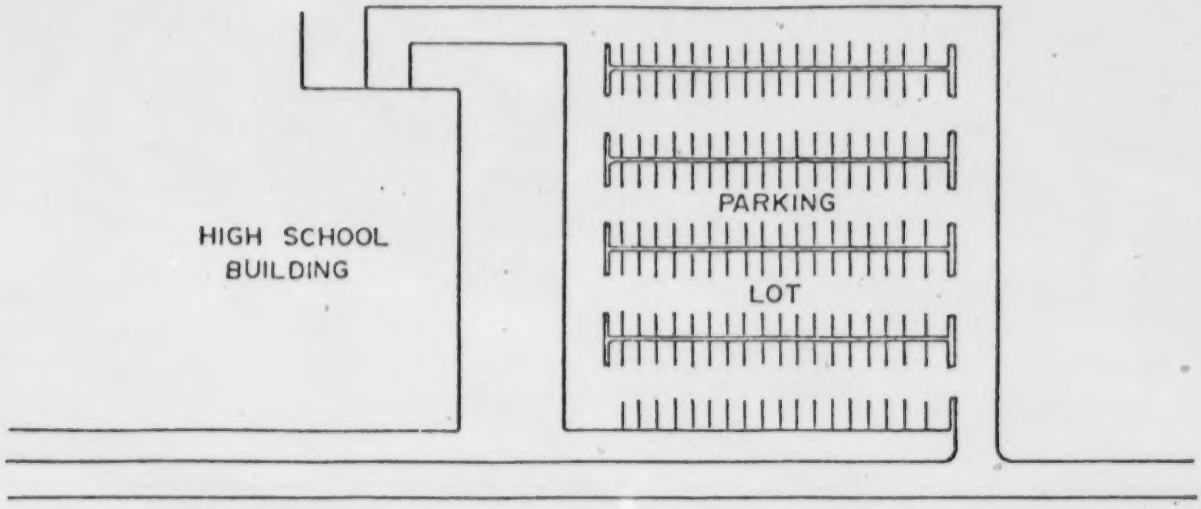



Figure Xa

Figure Xa shows a high school with an adjacent large parking lot. Presently, visitors, staff, and students may park anywhere in this lot. These parking areas should be separated, if possible, by signing and pavement marking. Adding concrete curbs may also be necessary.

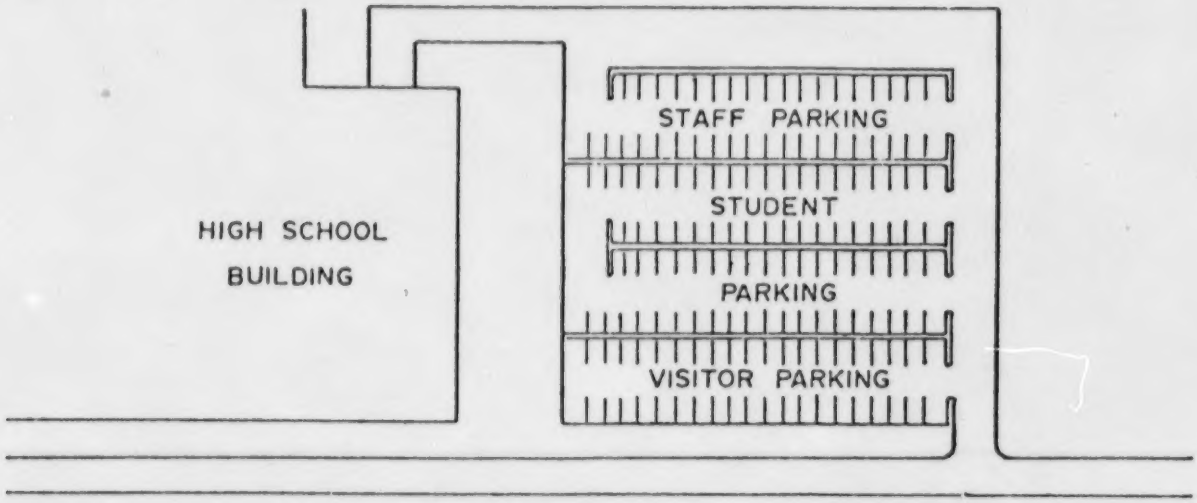



Figure Xb

As shown in Figure Xb, the lot has been divided to provide "reserved" staff parking, "reserved" visitor parking, near the main entrance, and student parking.

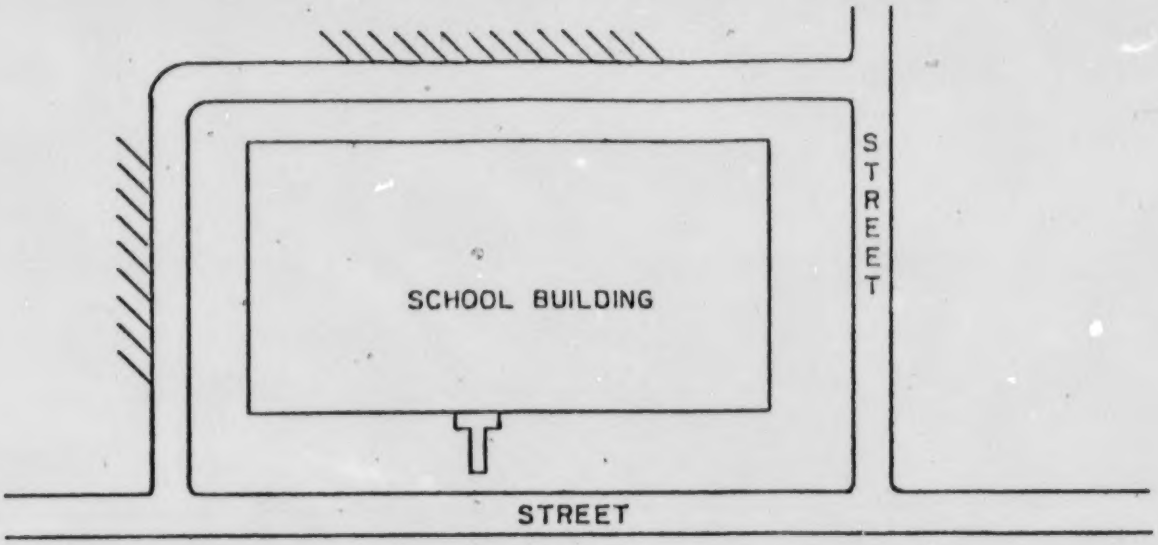



Figure XIa

In Figure XIa, an elementary school is bounded on all sides by either a street or driveway. As a result, the students are constantly exposed to vehicular traffic.

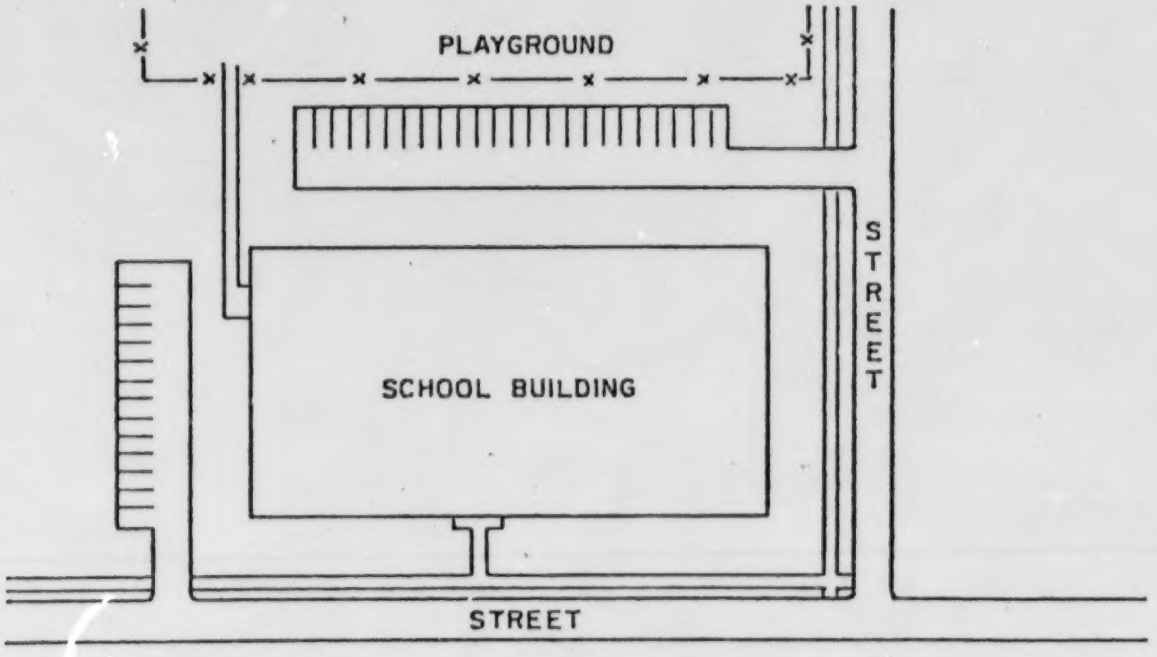



Figure XIb

Figure XIb shows where sidewalks are provided for safe walkways and bikeways along the streets, the circular driveway is interrupted, and a walkway is provided from the school to the playground. This may be done rather inexpensively and provides a greater measure of safety for the students.

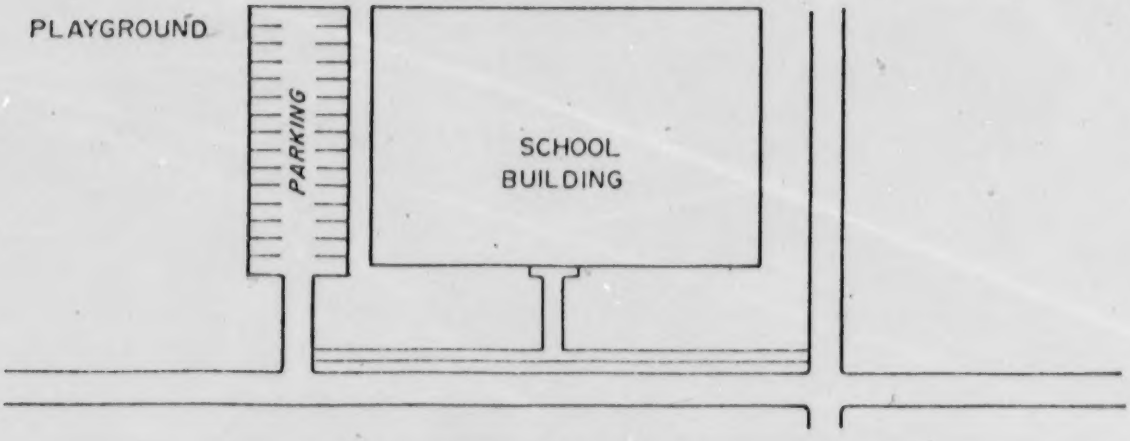



Figure XIIa

Figure XIIa depicts a school built with a parking lot and playground that requires students to cross the parking lot to reach the playground. Also, the students are not protected from the vehicles in the parking

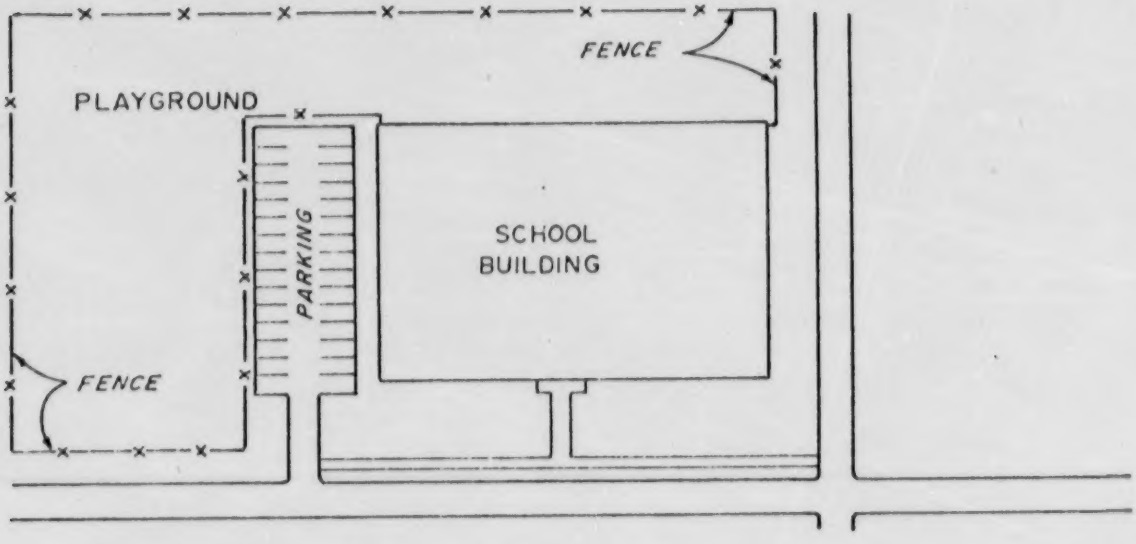



Figure XIIb

In Figure XIIb, a fence around the playground has been added to confine students to the playground area. The fencing also provides a barrier that prevents balls from rolling from the playground into the streets.

These examples illustrate just a few of the ways the basic principles discussed in previous Chapters may be applied to existing school sites.

As with new sites, each existing site is a unique situation and must be evaluated on an individual basis. Please note that there is no single solution common to improve all situations. But, rather each of the basic principles must be considered, as appropriate, in the analysis of an existing site.

## CHECKLIST

The following goals should be achieved to provide safe and efficient movement of traffic around schools:

1. The site has been chosen based on existing and future needs and not solely on property presently owned by the district or market value of real estate.

2. The site and proposed plans have been reviewed by the proper road agency.

3. Sufficient space has been provided for all transportation forms (cars, busses, bicycles, pedestrians, and service vehicles).

4. School busses have a loading and unloading zone separate from all other vehicles with adequate space available for entering and exiting the area.

5. Car riders have a safe and separate area to load and depart from parents' vehicles.

6. Sidewalks are provided for all pedestrian and bicycle movements.

7. All drivers and pedestrians have an unrestricted view of each other at all times.

8. Parking facilities for faculty, staff, students and visitors, are separated from each other with consideration given to special event parking.

9. Bicycle racks are provided near school entrances and near sidewalks.

10. Playgrounds and athletic fields are fenced from roadways and streets.

11. Emergency vehicles have access to all buildings.

12. All drives and roadways are paved, painted, and signed in compliance with the Michigan Manual of Traffic Control Devices, and are of sufficient width to accommodate vehicles.

13. All applicable permits have been obtained and applicable standards have been reviewed.

# APPENDIX A

## BIBLIOGRAPHY

## BIBLIOGRAPHY


Administrative Rules Regulating Driveways, Banners and Parades On and Over Highways, 1970

Michigan Department of State Highways & Transportation, P. O. Box 30050, Lansing, Michigan 48909

Michigan Manual of Uniform Traffic Control Devices, 1973

Michigan Department of State Highways & Transportation, Contracts Section, Publications Unit, P. O. Box 30050, Lansing, Michigan 48909

A Policy on Design of Urban Highways and Arterial Streets, 1973

American Association of State Highway Officials, General Offices, 341 National Press Blvd., Washington, D. C. 20004

A Program for School Crossing Protection, 1971

Institute of Transportation Engineers, 1815 North Ft. Myer Drive, Suite 905, Arlington, Virginia 22209. Copies available at $3.15 each.

School Trip Safety and Urban Play Areas, 1975

Federal Highway Administration, Offices of Research & Development, Washington, D.C. 20590

Standard Design Guides

Michigan Department of State Highways and Transportation, P. O. Box 30050, Lansing, Michigan 48909


Editor's Note: Each of these publications can be obtained from the respective addresses, or can be reviewed through the agencies listed in Appendix B. Each contain detailed information outlined in this pamphlet.

# APPENDIX B

## RESOURCE ORGANIZATIONS

## RESOURCE ORGANIZATIONS

*The following organizations are staffed with personnel who are experts in the school safety field. We urge you to contact the organization(s) in your area for assistance in:*

a) *designing your new school or school complex;*

b) *redesigning an existing school facility, or*

c) *resolving a traffic (pedestrian and/or vehicle) safety problem near any school.*

*Many of these services are offered at no cost to you.*

Limited federal funding is available through the Federal Highway Administration on a matching basis to conduct traffic engineering studies aimed at implementing the contents of this worthwhile booklet.

Michigan Office of Highway Safety Planning
7150 Harris Drive
General Office Building
Lansing, Michigan 48913
(517) 373-2930

The Michigan Department of Education has several staff members trained in school bus safety, traffic engineering, and enforcement. They can be contacted at:

Michigan Department of Education
1116 1/2 South Washington
Lansing, Michigan 48910
(517) 373-3314

The Automobile Club of Michigan has Safety Education Consultants and a Traffic Engineer who service the state. These people specialize in safety education programs, safety patrol and adult crossing guard operation, and traffic engineering assistance. The local consultant or engineer can be contacted through the AAA Administration Building:

Automobile Club of Michigan
Safety and Traffic Engineering Department
Auto Club Drive
Dearborn, Michigan 48126
(313) 336-1412

The most comprehensive listing of Architects and Consultants available to educators is the "Consultant Register". All architects listed are members of the council and have educational facility design experience. This list is published by the:

Council of Educational Facility Planners, International
29 West Woodruff Avenue
Columbus, Ohio 43210

A comprehensive list of private, competent traffic engineering consultants can be obtained through the Automobile Club of Michigan (address above).

Your local safety council or association is familiar with local traffic officials and local problems. Generally, it is a good source for any safety-related endeavors and is happy to assist you. Indicated below are the full-time staffed safety organizations in Michigan and their service area.

Managing Director
Traffic Improvement Association
Of Oakland County
2510 South Telegraph Road
Bloomfield Hills, MI 48013

Executive Director
Greater Detroit Safety Council
857 Virginia Park
Detroit, MI 48202

President
Traffic Safety Association of Detroit
310 Veterans Memorial Building
151 West Jefferson
Detroit, MI 48226

Executive Director
Genesee County Traffic Safety Commission
1000 Beach Street
Flint, MI 48502

Director
Kalamazoo County Safety Council
428 West South Street
Kalamazoo, MI 49006

Executive Secretary
Twin Cities Area Safety Council
311 State Street
St. Joseph, MI 49085

Managing Director
Traffic Safety for Michigan
412 North Walnut
Suite 1-A
Lansing, MI 48933

Director-Secretary
Safety Council of Greater Lansing
P. O. Box 1136
Lansing, MI 48904

Executive Secretary
Greater Saginaw Safety Council
1523 Court
Saginaw, MI 48602

Traffic Safety Association of Macomb County
24719 Van Dyke
Center Line, MI 48015

The Department of Michigan State Police is available for problem solving efforts related to school transportation safety. Communications should be directed to the local State Police Post or the Michigan State Police, Safety & Traffic Division, 7150 Harris Drive, Lansing, Michigan 48913, Telephone: 373-2823.

The Michigan Department of State Highways & Transporation has divided the state into 9 Districts. In each District is a traffic engineer. He is familiar with all aspects of traffic engineering and is available to assist school officials with any traffic related school problems. If the school abuts a state trunk line, the state highway department must be contacted for proper permits and plan approval. Addresses and phone numbers of each district are as follows:

## MICHIGAN DEPARTMENT of STATE HIGHWAYS and TRANSPORTATION

District Office Locations

DISTRICT 1

336 Superior Ave.
Crystal Falls (49920)
(906) 875-6651

DISTRICT 2

405 Newberry Ave.
Newberry (49868)
(906) 293-5168

DISTRICT 3

100 E. Chapin St.
Cadillac (49601)
(616) 775-3487

DISTRICT 4

3022 US-23 South
Alpena (49707)
(517) 356-2231

DISTRICT 5

1420 Front Ave., N.W.
Grand Rapids (49504)
(616) 451-3091

DISTRICT 6

P.O. Box 990
55 Morley Drive
Saginaw (48606)
(517) 754-7443

DISTRICT 7

7545 S. Westnedge
P.O. Box 6
Portage (49081)
(616) 327-3054

DISTRICT 8

Two North Plaza
Jackson (40202)
(517) 784-7172

METRO DISTRICT

P.O. Box 1226
18101 Nine Mile Road
Southfield (48075)
(313) 569-3993